

REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 1 and 7 have been amended. Claims 1-11 are pending in the application.

Entry of Amendment under 37 C.F.R. § 1.116

The Applicant requests entry of this Rule 116 Response because: the amendments were not earlier presented because the Applicant believed in good faith that the cited references did not disclose the present invention as previously claimed; and the amendment does not significantly alter the scope of the claim and places the application at least into a better form for purposes of appeal.

The Manual of Patent Examining Procedures (M.P.E.P.) sets forth in Section 714.12 that “any amendment that would place the case either in condition for allowance or in better form for appeal may be entered.” Moreover, Section 714.13 sets forth that “the Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified.” The M.P.E.P. further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

I. Rejection under 35 U.S.C. § 102

In the Office Action, at page 2, claims 1, 6 and 7 were rejected under 35 U.S.C. § 02(b) as being unpatentable over U.S. Patent No. 3,881,085 to Traister. This rejection is respectfully traversed because Traister does not discuss or suggest at least:

an AC voltage phase detection unit to detect a phase of the inputted AC voltage when a magnitude of the inputted AC voltage is over a predetermined level...;

a pulse signal generation unit to generate a heater lamp control pulse signal based on a result of detection; and

a control unit to control a driving start time of the heater lamp based on the generated heater lamp control pulse signal,

as recited in amended independent claim 1.

Traister further does not discuss or suggest:

detecting a phase of the inputted AC voltage when a magnitude of the inputted AC voltage is over a predetermined level;

generating a heater lamp control pulse signal based on a result of

the detection; and
controlling a driving start time of the heater lamp based on the
generated heater lamp control pulse signal,
as recited in amended independent claim 7.

Traister discusses rectifying AC voltage induced at a secondary coil 53 through the rectifier 55, converting AC voltage into DC voltage through a smoothing circuit, and detecting the level of the voltage induced at the secondary coil 53 using the difference between the converted DC voltage and a reference signal. In Traister, the SCR 46, which receives an output of the amplifier 66 as a control signal, is only operated to prevent overheating of the heat lamp 44 when the potential difference at both ends of the lamp 44 exceeds a predetermined value, that is, when the heat lamp 44 is supplied with over voltage. Thus, Traister does not discuss or suggest that a control unit controls a time of starting driving the heat lamp with accuracy, using the phase of the AC voltage, while minimizing the generation of a flicker.

In contrast, the present invention of claim 1, for example, discusses that the driving start time of the heater lamp is controlled based on a generated heater lamp control pulse signal, which is generated based on a result of the detection of a phase of an inputted AC voltage when a magnitude of the inputted AC voltage is over a predetermined level. Specifically, as discussed at page 5, paragraph 0021 of the present specification, the control unit 150 controls the fixing unit circuit to be switched on and off according to pulses in the heater lamp control pulse signal so that a voltage supplied from the power supply unit 120 is applied to the heater lamp 170. Further, as discussed at page 9, paragraph 0034 of the present specification, the application of the AC voltage to the heater lamp 170 is controlled based on the output signals of the AC voltage phase detection unit 130 and the pulse signal generation unit 140. Traister does not discuss or suggest that a driving start time of the heater lamp is controlled based on the generated heater lamp control pulse signal, but that SCR 46 is operated to prevent overheating of the heat lamp 44 when the heat lamp 44 is supplied with over voltage. Further, Traister does not suggest that the time of starting driving the heat lamp is controlled based on the detection of the phase of the inputted AC voltage.

Therefore, as Traister does not discuss or suggest “an AC voltage phase detection unit to detect a phase of the inputted AC voltage when a magnitude of the inputted AC voltage is over a predetermined level...; a pulse signal generation unit to generate a heater lamp control pulse signal based on a result of detection; and a control unit to control a driving start time of the heater lamp based on the generated heater lamp control pulse signal,” as recited in amended independent claim 1, and Traister further does not discuss or suggest “detecting a phase of the

inputted AC voltage when a magnitude of the inputted AC voltage is over a predetermined level; generating a heater lamp control pulse signal based on a result of the detection; and controlling a driving start time of the heater lamp based on the generated heater lamp control pulse signal," as recited in amended independent claim 7, claims 1 and 7 patentably distinguish over the reference relied upon. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Claim 6 depends directly from independent claim 1 and includes all the features of claim 1, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 6 recites that "the control unit controls a fixing unit circuit to be switched on and off according to pulses in the heater lamp control pulse signal so that a voltage supplied from the power supply unit is applied to the heater lamp." Therefore, claim 6 patentably distinguishes over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Conclusion

In accordance with the foregoing, claims 1 and 7 have been amended. Claims 1-11 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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